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Occupational Employment and Wages in Boston-Cambridge-Newton — May 2017

Workers in the Boston-Cambridge-Newton Metropolitan Statistical Area had an average (mean) hourly wage of \$33.26 in May 2017, about 37 percent above the nationwide average of \$24.34, according to the U.S. Bureau of Labor Statistics. Regional Commissioner Deborah A. Brown noted that, after testing for statistical significance, wages in the local area were higher than their respective national averages in 21 of the 22 major occupational groups, including legal; management; and healthcare practitioners and technical.

When compared to the nationwide distribution, local employment was more highly concentrated in 10 of the 22 occupational groups, including management; computer and mathematical; and business and financial operations. Conversely, nine groups had employment shares significantly below their national representation, including production; transportation and material moving; and sales and related. (See [table A](#) and [box note](#) at end of release.)

Table A. Occupational employment and wages by major occupational group, United States and the Boston-Cambridge-Newton Metropolitan Statistical Area, and measures of statistical significance, May 2017

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Boston	United States	Boston	Percent difference ⁽¹⁾
Total, all occupations	100.0	100.0	\$24.34	\$33.26*	37
Management	5.1	9.2*	57.65	68.61*	19
Business and financial operations	5.2	7.3*	36.70	42.49*	16
Computer and mathematical	3.0	5.3*	43.18	46.48*	8
Architecture and engineering	1.8	2.4*	41.44	45.58*	10
Life, physical, and social science	0.8	2.0*	35.76	40.47*	13
Community and social service	1.5	1.8*	23.10	24.55*	6
Legal	0.8	1.2*	51.62	63.21*	22
Education, training, and library	6.1	6.4*	26.67	33.91*	27
Arts, design, entertainment, sports, and media	1.4	1.8*	28.34	32.25*	14
Healthcare practitioners and technical	6.0	6.8*	38.83	49.53*	28
Healthcare support	2.9	2.5*	15.05	18.08*	20
Protective service	2.4	2.3	22.69	27.61*	22
Food preparation and serving related	9.3	8.1*	11.88	15.02*	26
Building and grounds cleaning and maintenance	3.1	3.0	13.91	18.20*	31
Personal care and service	3.6	3.7	13.11	16.85*	29
Sales and related	10.2	8.6*	19.56	25.87*	32
Office and administrative support	15.4	14.1*	18.24	22.34*	22
Farming, fishing, and forestry	0.3	(2)*	13.87	15.55*	12
Construction and extraction	4.0	3.1*	24.01	31.65*	32
Installation, maintenance, and repair	3.9	2.5*	23.02	27.81*	21
Production	6.3	3.0*	18.30	20.49*	12
Transportation and material moving	7.0	4.7*	17.82	(2)	

Note: See footnotes at end of table.

Footnotes:

(1) A positive percent difference measures how much the mean wage in the Boston-Cambridge-Newton Metropolitan Statistical Area is above the national mean wage, while a negative difference reflects a lower wage.

(2) Estimate not released

(2) Indicates a value of less than 0.05 percent

* The percent share of employment or mean hourly wage for this area is significantly different from the national average of all areas at the 90-percent confidence level.

One occupational group—computer and mathematical—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Boston-Cambridge-Newton had 97,910 jobs in computer and mathematical, accounting for 5.3 percent of local area employment, significantly higher than the 3.0-percent share nationally. The average hourly wage for this occupational group locally was \$46.48, significantly above the national wage of \$43.18.

Some of the larger detailed occupations within the computer and mathematical group included software developers, applications (20,290), software developers, systems software (17,320), and computer user support specialists (13,110). Among the higher paying jobs in this group were computer and information research scientists and computer network architects, with mean hourly wages of \$65.75 and \$57.40, respectively. At the lower end of the wage scale were computer user support specialists (\$30.74) and operations research analysts (\$36.41). (Detailed data for the computer and mathematical group are presented in [table 1](#); for a complete listing of detailed occupations available go to www.bls.gov/oes/current/oes_71654.htm .)

Location quotients allow us to explore the occupational make-up of a metropolitan area by comparing the composition of jobs in an area relative to the national average. (See [table 1](#).) For example, a location quotient of 2.0 indicates that an occupation accounts for twice the share of employment in the area than it does nationally. In the Boston-Cambridge-Newton Metropolitan Statistical Area, above-average concentrations of employment were found in many of the occupations within the computer and mathematical group. For instance, software developers, systems software were employed at 3.4 times the national rate in Boston, and computer network architects, at 2.0 times the U.S. average. On the other hand, computer programmers had a location quotient of 1.0 in Boston, indicating that this particular occupation's local and national employment shares were similar.

These statistics are from the Occupational Employment Statistics (OES) survey, a federal-state cooperative program between BLS and State Workforce Agencies, in this case, the Massachusetts Division of Unemployment Assistance.

Notes on Occupational Employment Statistics Data

With the release of the May 2017 estimates, the OES program has replaced 21 detailed occupations found in the 2010 Standard Occupational Classification (SOC) with 10 new aggregations of those occupations. In addition, selected 4- and 5-digit North American Industry Classification System (NAICS) industries previously published by OES will no longer be published separately. Some of the 4-digit NAICS industries that are no longer being published separately will instead be published as OES-specific industry aggregations. More information about the new occupational and industry aggregations is available at www.bls.gov/oes/changes_2017.htm.

A value that is statistically different from another does not necessarily mean that the difference has economic or practical significance. Statistical significance is concerned with the ability to make confident statements about a universe based on a sample. It is entirely possible that a large difference between two values is not significantly different statistically, while a small difference is, since both the size and heterogeneity of the sample affect the relative error of the data being tested.

Technical Note

The Occupational Employment Statistics (OES) survey is a semiannual survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. The OES data available from BLS include cross-industry occupational employment and wage estimates for the nation; over 650 areas, including states and the District of Columbia, metropolitan statistical areas (MSAs), metropolitan divisions, nonmetropolitan areas, and territories; national industry-specific estimates at the NAICS sector, 3-, 4-, and selected 5- and 6-digit industry levels; and national estimates by ownership across all industries and for schools and hospitals. OES data are available at www.bls.gov/oes/tables.htm.

OES estimates are constructed from a sample of about 1.2 million establishments. Each year, two semiannual panels of approximately 200,000 sampled establishments are contacted, one panel in May and the other in November. Responses are obtained by mail, Internet or other electronic means, email, telephone, or personal visit. The May 2017 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2017, November 2016, May 2016, November 2015, May 2015, and November 2014. The overall national response rate for the six panels, based on the 50 states and the District of Columbia, is 72 percent based on establishments and 68 percent based on weighted sampled employment. The unweighted sample employment of 82 million across all six semiannual panels represents approximately 58 percent of total national employment. The sample in the Boston-Cambridge-Newton Metropolitan Statistical Area included 7,431 establishments with a response rate of 64 percent. For more information about OES concepts and methodology, go to www.bls.gov/oes/current/oes_tec.htm.

The May 2017 OES estimates are based on the 2010 Standard Occupational Classification (SOC) system and the 2017 North American Industry Classification System (NAICS). Information about the 2010 SOC is available on the BLS website at www.bls.gov/soc and information about the 2017 NAICS is available at www.bls.gov/bls/naics.htm.

Metropolitan area definitions

The substate area data published in this release reflect the standards and definitions established by the U.S. Office of Management and Budget.

The **Boston-Cambridge-Newton, Mass. Metropolitan Statistical Area** includes Abington town, Acton town, Andover town, Arlington town, Bedford town, Belmont town, Berlin town, Bolton town, Boston city, Boxborough town, Boxford town, Braintree town, Brookline town, Burlington town, Cambridge city, Canton town, Carlisle town, Carver town, Chelsea city, Cohasset town, Concord town, Dedham town, Dover town, Duxbury town, Essex town, Everett city, Foxborough town, Franklin city, Gloucester city, Halifax town, Hamilton town, Hanover town, Hingham town, Holbrook town, Hull town, Ipswich town, Kingston town, Lexington town, Lincoln town, Lynnfield town, Malden city, Manchester by the Sea town, Mansfield town, Marshfield town, Maynard town, Medfield town, Medford city, Medway town, Melrose city, Middleton town, Millis town, Milton town, Needham town, Newbury town, Newton city, Norfolk town, North Reading town, Norwell town, Norwood town, Pembroke town, Plymouth town, Plympton town, Quincy city, Randolph town, Reading town, Revere city, Rockland town, Rockport town, Rowley town, Scituate town, Sharon town, Sherborn town, Somerville city, Stoneham town, Stoughton town, Stow town, Topsfield town, Wakefield town, Walpole town, Waltham city, Watertown city, Wayland town, Wellesley town, Wenham town, Weston town, Westwood town, Weymouth town, Wilmington town, Winchester town, Winthrop town, Woburn city, Wrentham town

Additional information

OES data are available on our regional web page at www.bls.gov/regions/new-england. Answers to frequently asked questions about the OES data are available at www.bls.gov/oes/oes_ques.htm. Detailed technical information about the OES survey is available in our Survey Methods and Reliability Statement on the BLS website at www.bls.gov/oes/current/methods_statement.pdf.

Information in this release will be made available to sensory impaired individuals upon request. Voice phone: (202) 691-5200; Federal Relay Service: (800) 877-8339.

Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Boston-Cambridge-Newton Metropolitan Statistical Area, May 2017

Occupation ⁽¹⁾	Employment		Mean wages	
	Level ⁽²⁾	Location quotient ⁽³⁾	Hourly	Annual ⁽⁴⁾
Computer and mathematical occupations	97,910	1.8	\$46.48	\$96,680
Computer and information research scientists	710	2.0	65.75	136,760
Computer systems analysts	10,210	1.4	44.79	93,160
Information security analysts	2,540	1.9	52.17	108,520
Computer programmers	3,290	1.0	47.59	98,990
Software developers, applications	20,290	1.9	49.76	103,490
Software developers, systems software	17,320	3.4	54.96	114,320
Web developers	3,010	1.9	40.92	85,120
Database administrators	1,980	1.4	44.48	92,530
Network and computer systems administrators	5,960	1.2	45.62	94,880
Computer network architects	4,050	2.0	57.40	119,390
Computer user support specialists	13,110	1.7	30.74	63,940
Computer network support specialists	2,040	0.9	38.87	80,850
Computer occupations, all other	6,990	1.7	45.64	94,940
Actuaries	880	3.6	53.66	111,610
Operations research analysts	3,180	2.3	36.41	75,740
Statisticians	2,290	4.9	49.15	102,240

Footnotes:

(1) For a complete listing of all detailed occupations in Boston-Cambridge-Newton, MA NECTA Division, see www.bls.gov/oes/current/oes_71654.htm

(2) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates do not include self-employed workers.

(3) The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average.

(4) Annual wages have been calculated by multiplying the hourly mean wage by a "year-round, full-time" hours figure of 2,080 hours; for those occupations where there is not an hourly mean wage published, the annual wage has been directly calculated from the reported survey data.